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ABSTRACT

In an effort to determine the impact of entry-level writing tests and subsequent remedial writing programs on various student ethnic populations at California's Oxnard College (OC), a study was conducted of 812 first-time students in fall 1989 who were administered the Assessment and Placement Services Exam for Community Colleges (APSECC). Of these students, 78.69% scored below college-level on the writing skills portion of the test and 38.65% subsequently enrolled in the college's remedial writing program. Study findings included the following: (1) White students performed best on the writing subtest while Asian and Black students performed least well; (2) a greater proportion of Asian and Hispanic students who scored below college-level elected to enroll in remedial writing than White students, although these differences were not shown to be statistically significant; and (3) 65.59% of the students who enrolled in remedial writing courses matriculated to at least one college-level course in the subsequent term, with Filipino and White students more likely to matriculate than other ethnic groups. Study recommendations included the following: the APSECC, last validated in 1979, should be reevaluated against a more recent standardized test instrument; OC should assess the propriety of the established cut-off scores; the college should also consider using a test that has been normed with a west coast test population; and, in view of the small proportion of students enrolling in remedial writing, a review of the college's entry-level student counseling services should be undertaken. (PAA)

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# THE IMPACT OF WRITING PLACEMENT TESTING AND REMEDIAL WRITING PROGRAMS ON STUDENT ETHNIC POPULATIONS AT OXNARD COLLEGE

by

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June 28, 1991

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OXNARD COLLEGE Research Report #91-02

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## ABSTRACT

This study was designed to determine the impact of assessment, placement and remedial, writing programs on the various student ethnic populations at Oxnard College. The sample for the study included 812 first-time-in-college students who were administered the Assessment and Placement Services Exam for Community Colleges developed by the College Board.

Of the 812 students administered the writing assessment, nearly 79% of the students failed to demonstrate college-level writing skills on the test. The writing test also impacted the various student ethnic populations unequally or disproportionately.

The study also revealed that only 39% of the students who scored below college level on the writing assessment enrolled in the college's remedial writing program. However, enrollment in the remedial writing program appeared to be somewhat proportional among the various student ethnic populations.

Finally, the results of the study suggested that 66% of the students who completed the remedial writing program matriculated to one or more college-level courses. This matriculation to college-level courses from the remedial writing program did not appear to statistically discriminate against any of the student ethnic populations included in the sample.

As a result of the study, it was strongly recommended that the writing assessment be validated against a more recent assessment instrument and that the cut-off-scores for college-level placement be reviewed. It was also recommended that a mechanism which ensures each student receives placement counseling be developed and that a follow-up study be implemented to determine the academic success of students who completed the remedial writing curriculum. In conclusion, the propriety of using an assessment instrument that has not been normed or validated since 1979 was discussed.

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## PURPOSE

Federal civil rights laws, as well as the Title 5 assessment regulations, require community colleges in California to address issues relevant to the impact of testing and other college programs on minority students. The concern is that entry-level testing and other programs and services at the colleges do not adversely (or disproportionately) impact minorities. In response to these concerns, a variety of studies have been designed by the Community College Research Group in California. This study is in response to one of the designs and specifically addresses the impact of entry-level writing tests and subsequent remedial writing programs on minority student populations.

## BACKGROUND AND SIGNIFICANCE

In theory, it is the responsibility of colleges to ensure that its various testing procedures and other programs and services do not adversely impact minority student populations. However, if the goal of higher education is to facilitate the progress of all students to an acceptable competency level, the impact of testing and other college programs should only be a concern if it can be shown that these programs unfairly impact any ethnic group or category.

At issue, of course, is the subject of fairness. A test or program designed to facilitate the attainment of a prescribed competency level by all students is not innately unfair just because the test or program disproportionately impacts certain ethnic populations. In other words, the test or program must be shown to cause disparate impact because it is invalid or unreliable in terms of facilitating the prescribed competency levels. The fact that a disproportionate impact may exist does not, and statistically cannot, infer that the test or program in question in unfair. It would, however, raise a caution flag that necessitates a validity and reliability study of the test or program in question.

At Oxnard College, entry-level testing for English/writing skills is mandatory and writing remediation is strongly recommended for students who score below established cut-off scores. As such, it is essential that the college periodically monitors the impact of the entry-level testing program and the remedial programs in writing on the various student ethnic populations to ensure both the entry-level testing and remedial writing programs facilitate the academic process without unfairly impacting certain ethnic populations.

## RELATED LITERATURE

Considerable doubt has existed for decades concerning the ability of remedial English and ESL students to benefit from college instruction and persist in their higher education endeavors. Bauer (1987) suggests that the need for remedial

English education (including writing) is increasing among college freshman; however, there appears to be no standardized approach to proficiency assessment. Indeed, Bauer contends that failure in the classroom can be a direct result of the testing process. In other words, she states, the usual method of competency assessment has the capability of failing the student as well as the student failing it. This is particularly disconcerting since the internal validity of many testing instruments raises questions about test predictability altogether. She concludes that competency levels in the subject area of English should be a multi-determined process and there exists few methods for accurate assessment of ability.

Abraham (1987) also expressed concern about the efficacy of entry-level testing in English. In a survey of 489 colleges and universities, he suggested that no continuity exists among institutions' methods of assessment and placement for freshman students. The respondents reported using 31 different tests for reading and 30 different tests for writing. Even more disconcerting was the fact that on one of the more common assessment instruments, the ACT English sub-test, cut-off scores for college-level placement ranged between the fifth and fifty-first percentile depending on the proclivity of the particular institution. Thus, the anomaly exists that a student who is remediated at one institution may not be remediated at another institution.

Beyond the fairness of the entry-level testing process for English skills, a number of studies have reviewed the effectiveness of remedial writing programs on subsequent student achievement and persistence. The most definitive study to date was conducted by Kulik, Kulik and Shwalb (1983). They reviewed sixty previous studies on higher education remedial programs. They concluded that high-risk students who enrolled in remedial programs generally stayed in school longer and had better grades than similar students who did not enroll in remedial programs exclusive of community college high-risk students. The effectiveness of remedial programs for the high-risk community college student, however, was delineated as marginal at best by the study and the researchers concluded that:

1. The community college developmental and remedial programs effectiveness in raising grade-point averages was "indistinguishable" from the effectiveness of regular programs.

2. Developmental and remedial programs in the community colleges had little effect on the persistence rates of students.

Contrariwise, a more recent study (1987) at Evergreen Community College which specifically studies remedial English and English as a Second Language programs concluded that students who tested as needing remedial

English/writing or ESL instruction but did not enroll in these courses were less persistent than similar students who did enroll in these courses. The study also concluded that remedial students persisted as well as successful nonremedial students when they experienced success and/or high levels of support for their educational goals. In contrast, the study found that students who did not take entry-level placement tests and who were not remediated persisted in college at a much lower rate than most other groups. Finally, the study suggested that both reading and writing remediation for high-risk students tended to yield higher persistence rates than reading or writing singularly (Kangas and Reichelderfer: 1987).

In a similar study by Hobbs (1989) at Shelby State Community College, the retention rates and grade distributions of successfully remediated students were reviewed. The study concluded that successfully remediated students performed slightly better overall than students who did not need remediation as measured by the entry-level criteria.

## RESEARCH QUESTIONS

This study is ex-post-facto in nature. It was designed to determine the impact of entry-level testing and remedial writing programs on the various student ethnic populations at Oxnard College. Specifically, the following questions were investigated:

1. Does the entry-level writing test at Oxnard College discriminate equally (or proportionately) when each major student ethnic category is compared to the whole student population.

2. Is the proportion of students in each ethnic category that successfully completes the college's remedial writing program equal to the proportion of all other students who successfully complete the remedial writing program.

3. Is the proportion of remedial writing students that persist to college-level course work within each major student ethnic population equal to the proportion of all remedial writing students who persist to college-level work.

## HYPOTHESES

For purposes of this study, the following Null Hypotheses (HO) were proposed:

1. The proportion of students in each major ethnic category who are classified as needing writing remediation by the entry-level test will not

be statistically different from the proportion of all students who are classified as needing writing remediation by the entry level test.

2. The proportion of students in each major ethnic category who need remedial writing as measured by the entry-level test and choose to enroll in remedial writing will not be statistically different from the proportion of all students who need remedial writing and choose to enroll in remedial writing.

3. The proportion of students in each major ethnic category who enrolled in remedial writing and subsequently matriculated to one or more college-level course(s) will not be statistically different than the proportion of all students who enrolled in remedial writing and subsequently matriculated to one or more college-level course(s).

## METHODOLOGY

The sample for this study included all 812 students who were tested for writing placement in English between May 1, 1989 and October 1, 1989, and who first enrolled at Oxnard College in the fall of 1989. Once the 812 students were identified, each student was classified according to ethnic background and their scores on the Writing Subtest of the Assessment and Placement Services Exam for Community Colleges were used to identify those students who scored below college level (28 or lower). The Chi-Square statistic was calculated to determine if the proportion of each ethnic group who failed to achieve college level was significantly different than the proportion of the entire sample who failed to achieve college-level.

To determine if students in each ethnic category enrolled in remedial writing proportionately, the Chi-Square statistic was again calculated. However, for this statistical test, only the students who scored below college-level were included in the sample. As in the first procedure, the proportion of students in each ethnic category enrolling and not enrolling in remedial writing were compared to the same proportions for the entire sample.

For the final analysis, only the students who actually enrolled in remedial writing were included in the sample population. These students either matriculated to a subsequent term and enrolled in a college-level courses or they did not. The Chi-Square Statistic was again calculated to determine if there were significant proportionate differences in matriculation to college-level courses by ethnic category.

## DEFINITION OF TERMS

The Community College Research Group has specified that a student successfully completes a course if the student's transcript delineates a grade of "A", "B", "C" or "CR" for each course attempted. Likewise, the research group has specified that nonsuccessful completion of a course is delineated by a grade of "D", "F", "NC" or "I" on the transcript.

Persistence has been defined as enrollment in the subsequent term as indicated by the student's transcript. However, it should be noted that persistence is not commonly used by higher education researchers to describe the phenomenon "staying in school." Indeed, most researchers opt for the terms retention and/or attrition to describe this phenomenon. Secondly, this narrow view of persistence put forth by the research group does not take into account the "stop-in", "stop-out" proclivity of today's community college student.

The Assessment and Placement Services Exam for Community Colleges was developed by the College Board and is an outgrowth of the Comparative Guidance and Placement Services Exam developed by the College Board and normed nationally. The writing subtest includes 40 items and the Oxnard College English Faculty established a raw score of 29 or better as indicating college-level writing ability.

## LIMITATIONS

Several assumptions have been made concerning the efficacy of the college prescribed entry-level test. Most notably, it has been assumed that a score of 29 or better on the writing subtest is indicative of college-level writing ability and that students who do not achieve this score, are writing below college level. Assumptions have also been made about the test's reliability and validity (see Appendix A). This is especially disconcerting when one considers the fact that students may consider the entry-level testing process a necessary but inconsequential event in an otherwise "open door" institution where test scores have no bearing on admissions.

Oxnard College has a very large English as a Second Language (ESL) student population. It is questionable that these students can be fairly assessed by an entry-level test that is designed to be administered to students who are fluent in English. Additionally, it is also questionable that these students can benefit from remedial writing programs to the extent that English speaking students can.

Instruction in the remedial writing programs could not be controlled to the extent desirable. Though the remedial writing curriculum is standardized for the

college, a variety of different instructors taught the courses. As such, the idiosyncratic nature of instructor effectiveness and grading policies was a concern especially to the extent individual student progress was affected by these variables.

## ASSUMPTIONS

Two major assumptions were made for this study. First, the calculation of the Chi-Square Statistic required the formulation of a theoretical or expected proportional impact of the variables on the student ethnic populations. As such, it was assumed that the expected proportion of students in each ethnic category affected by the variable in question would relate to a constant derived from the percentage of students in the entire sample population who were affected by the variable in question. Thus, if 78.69% of the entire sample population failed to achieve college level on the entry-level test, then it was assumed that 78.69% of the students in each ethnic category should fail to achieve college level on the entry test, and so on for each variable.

Certainly, no such assumption could be made within the confines of true population parameters without accounting for a number of covariates. However, since the major purpose of this study was the investigation of unequal impact on the various student ethnic categories, it was believed that the covariates should be ignored and equal distribution within the student ethnic groups studied should be assumed so that the variations from this "expected" equal distribution could be statistically measured.

Secondly, it was assumed that English 14 was NOT a college-level course because the course does not articulate to the California State or the California University system. However, it should be noted that English 14 does appear on the student transcript and is used in the calculation of credit hours towards graduation from Oxnard College.

## RESULTS

Table 1 indicates that 78.69% of the students tested scored below college level on the writing subtest. It also indicates that the White ethnic group performed best on the writing subtest and that the Asian and Black ethnic groups performed least well. The Chi-Square Statistic was significant at the .05 level which would indicate the test does disproprotionately impact the various ethnic groups provided the expectation is that below college-level scores should be equally dispersed among the ethnic groups. However, it should be noted that the better performance of the White ethnic group strongly influenced the Chi-Square Statistic.

## TABLE 1

### Differences in the Proportion of Students in the Tested Population Scoring Below College Level on the Writing Subtest by Ethnicity

| | Tested Population (N) | # Scoring Below College Level | | % Scoring Below College Level | | Pearson Chi-Square Calculation |
|---|---|---|---|---|---|---|
| | | O | E | O | E | |
| Asian | 35 | 35 | 27.54 | 100% | 78.69% | 2.02 |
| Black | 45 | 40 | 35.42 | 89% | 78.69% | .59 |
| Filipino | 73 | 63 | 57.45 | 86% | 78.69% | .54 |
| Hispanic | 310 | 271 | 243.93 | 87% | 78.69% | 3.00 |
| White | 324 | 210 | 254.97 | 65% | 78.69% | 7.93 |
| *Other | 25 | 20 | 19.69 | 80% | 78.69% | .01 |
| TOTAL | 812 | 639 | 639.00 | | | $x^2$ = 14.09 |

Where: O = Observed Frequencies $p < 0.05$ at 5 df
E = Expected Frequencies

* Combined Cells of < 5 (Am. Indian, Alsk., Hdcpd, and Unclassified) See Hayslett, 1968.

Table 2 indicates that only 38.65% of the students who scored below college level on the writing subtest actually enrolled in a remedial writing course. Proportionately, more Asian and Hispanic students who scored below college level elected to enroll in remedial writing and more White students scoring below college level elected not to enroll in remedial writing. However, assuming that enrollment into remedial writing would be equally distributed among the ethnic categories, the Chi-Square Statistic was not significant at the .05 level. This suggests that the observed enrollment in the sample population was not significantly different than the expected enrollment.

## TABLE 2

### Differences in the Proportion of Students Needing Remedial Writing Who Enrolled in Remedial Writing By Ethnicity

| | # Needing Remediation | # Enrolled in Remedial Writing | | % Enrolled | | Pearson Chi-Square Calculation |
|---|---|---|---|---|---|---|
| | | O | E | O | E | |
| Asian | 35 | 18 | 13.52 | 51% | 38.65% | 1.48 |
| Black | 40 | 13 | 15.46 | 33% | 38.65% | .39 |
| Filipino | 63 | 21 | 24.35 | 33% | 38.65% | .46 |
| Hispanic | 271 | 125 | 104.74 | 46% | 38.65% | 3.92 |
| White | 210 | 62 | 81.17 | 30% | 38.65% | 4.52 |
| *Other | 20 | 8 | 7.76 | 38% | 38.65% | .01 |
| TOTAL | 639 | 247 | 247.00 | | | $x^2$ = 10.78 |

Where: O = Observed Frequencies  $p > 0.05$ at 5 df
E = Expected Frequencies

* Combined Cells of < 5 (Am. Indian, Alsk., Hdcpd, and Unclassified) See Hayslett, 1968.

Table 3 indicates that 65.59% of the students who enrolled in remedial writing courses matriculated to at least one college-level course in the subsequent term. The data also suggests that the Filipino and White ethnic groups were more likely to matriculate than the other ethnic groups and that the Asian and Other ethnic groups were least likely to matriculate. The Chi-Square Statistic was not significant at the .05 level which suggests that the ethnic groups matriculated to college-level courses somewhat as expected.

**TABLE 3**

**Differences in the Proportion of Remediated Writing Students Who Matriculated to College-Level Work By Ethnicity**

| | Remediated Writing Students | # Matriculating to College-Level Courses | | % Matriculating | | Pearson Chi-Square Calculation |
|---|---|---|---|---|---|---|
| | | O | E | O | E | |
| Asian | 18 | 10 | 11.81 | 56% | 65.59% | .28 |
| Black | 13 | 9 | 8.53 | 69% | 65.59% | .03 |
| Filipino | 21 | 16 | 13.77 | 76% | 65.59% | .36 |
| Hispanic | 125 | 78 | 81.98 | 62% | 65.59% | .19 |
| White | 62 | 45 | 40.67 | 73% | 65.59% | .46 |
| *Other | 8 | 4 | 5.24 | 50% | 65.59% | .29 |
| TOTAL | 247 | 162 | 162.00 | | | $x^2 = 1.61$ |

Where: O = Observed Frequencies $p > 0.05$ at 5 df
E = Expected Frequencies

* Combined Cells of < 5 (Am. Indian, Alsk., Hdcpd, and Unclassified) See Hayslett, 1968.

## DISCUSSION AND RECOMMENDATIONS

The fact that nearly 79% of the students included in the sample tested below college level on the writing subtest was particularly alarming. No doubt, many researchers have expressed concern about the writing ability of entering college freshman (see Bauer, 1987); however, it is unlikely that even the most pessimistic would expect 79% of entering college freshman to score below college level on a writing assessment.

Because of the large percentage of students scoring below college level, and the fact that the version of the Assessment and Placement Services Exam used by the college has not been updated since 1979, it is strongly recommended that the test be validated against a more recent standardized instrument such

as the MAPS, the ASSET, the ACT and/or the SAT. A reliability study should also be done on the test and new content and predictive validity studies should be considered.

The college should also consider the propriety of the established cut-off scores on the writing subtest. The Writing Subtest of the Assessment and Placement Services Exam for Community Colleges was normed for a Standard Score mean of 50 with a standard deviation of 10 (these norms have fallen slightly since the original standardization). The college's self-selected cut-off score of 29 on the writing subtest to indicate college level writing ability corresponds to a Standard Score of 55 on the test. Thus, the college is in the position of establishing a cut-off score that is one-half standard deviation units above the national mean. This suggests that Oxnard College expects that only 30.85% of all tested students in the nation are capable of writing at the college-level provided the normative data in the test's technical report (College Board: 1984) is representative of true population parameters.

It should also be noted that the use of an entry-level test that can affect the placement of the vast majority of students with no recent validity and reliability studies leaves the college in a very vulnerable position. The Chi-Square Statistic for the writing subtest does suggest that the first Null Hypothesis should be rejected in favor of an alternate hypothesis which indicates that the writing subtest unequally (or disproportionately) impacts the various ethnic student populations. As such, and without recent validity and reliability studies, the college would be hard pressed to defend this test on the basis of assisting students to reach desired competency levels.

Some concern should also be expressed about the population that was used to standardize the Assessment and Placement Services Exam for Community Colleges. The technical report indicates that the vast majority of the sample population for the norming process were students in the eastern half of the United States (College Board: 1984). The college may want to consider other standardized instruments which were normed using a larger west coast sample population. The use of a "west coast normed" test may also facilitate a more appropriate study on curriculum weaknesses in the college's secondary feeder schools than would the use of an "east coast normed" test. Under the new Carl Perkins Tech-Prep legislation, grant money for such a study appears to be easily attainable.

In terms of the second Null Hypothesis, the data in this study suggests that the hypothesis should be accepted: that is, enrollment in remedial writing by students who score below college-level on the writing test at Oxnard College does not appear to be disproportionate or unequal among the various student ethnic categories. The greater concern is that only 38.65% of the students who

tested as needing remediation actually enrolled in one or more remedial writing courses.

In a previous study at Oxnard College, Jones and Jackson (1991) speculated that a variety of alternative methods utilized by students to register for classes allowed many, if not most, students to avoid the counseling process. As such, they theorized that many students in need of remediation did not receive such counseling. Their study, and the fact that only 38.65% of the students included in this study that tested below college level enrolled in remedial writing programs, strongly suggests that a review of the counseling process at Oxnard College be undertaken. The study should focus on a mechanism that ensures all first-time-in-college students are counseled concerning their academic weaknesses and strengths. The previous Jones and Jackson study made suggestions for this process.

In terms of the third and final Null Hypothesis, the data in this study suggest that the hypothesis should also be accepted. Indeed, there is very little difference in the proportion of remedial writing students who matriculate to college-level courses among the various student ethnic groups. As such, perhaps the more appropriate question to ask is the extent to which the remedial writing programs foster future academic success at the college and it is recommended that such a study be designed.

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## APPENDIX

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See: College Entrance Examination Board. Assessment and Placement Services for Community Colleges: Using and Interpreting Scores. Princeton, NJ: College Board, 1984.



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